REMARKS

Claims 1-21 are pending in the application, of which claims 1 and 6 are independent. The following comments address all stated grounds for rejection, and the Applicant respectfully submits that the presently pending claims, as identified above, are now in a condition for allowance.

Claims 1-21 Being Rejected Under 35 U.S.C. §103

Claims 1-21 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,430,150 ("Azuma"). Applicant respectfully traverses these rejections.

Claim 1 is directed to a method for managing a network having a connection failure between a first node and a second node along a path. The method determines whether *a first connection* can be established between the first node and the second node. If the first connection cannot be established, the method determines whether *a second connection* can be established between the first node and a third node located after the second node along the path. If the first connection and the second connection cannot be established, the method determines whether *a third connection* can be established between a fourth node located before the first node along the path and the second node. If the first connection and the second connection and the third connection cannot be established, the method determines whether *a fourth connection* can be established between the fourth node located before the first node along the path and the third node. Claims 2-5 and 12-16 depend upon claim 1. Claim 6 is directed to a method for managing a network having a connection failure between nodes N_k and N_{k+1} along a path, and recites similar limitations. Claims 7-11 and 17-21 depend upon claim 6.

Applicant submits that Azuma fails to teach or suggest the step of determining whether *a second connection* can be established between the first node and a third node located after the second node along the path if the first connection cannot be established, as recited in claim 1. The Examiner asserts in the Office Action that Azuma teaches the step of determining whether a connection connecting nodes 5, 3, 2 and 1 can be established between node 5 and node 1, if a connection failure occurs between nodes 5 and 6. See the Office Action, page 2, lines 11-14. Applicant respectfully disagrees.

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Azuma teaches a restoration method in a mesh network. In Fig. 5A, Azuma teaches that when a failure occurs between nodes 5 and 6, a connection connecting nodes 6, 2, 3 and 5 is set according to the line restoration. Azuma also teaches that the failure can be processed according to the path restoration such that an alternate path connecting nodes 1, 2, 3 and 4 is set in place of the path connecting nodes 1, 6, 5 and 4. See Azuma, column 7, lines 20-33.

In contrast, with the arrangement of the claimed invention, when a connection failure occurs between a first node and a second node along a path, it is determined whether another connection (a first connection) can be established between the first node and the second node. A drawing is attached herewith to depict the recovery connections between nodes in the claimed invention. If the first connection cannot be established, that is, there are no other possible connections between the first node and the second node, it is determined whether a second connection can be established between the first node and a third node located after the second node along the path. Azuma teaches that when a failure occurs between nodes 5 and 6, a connection connecting nodes 6, 2, 3 and 5 is set according to the line restoration, or a connection connecting nodes 1, 2, 3 and 4 is set according to the path restoration. Azuma, however, does not teach determining whether a connection between nodes 1 and 5 can be established when the first connection between nodes 5 and 6 cannot be established, as recited in the claimed invention.

The Examiner asserts in the Office Action that Azuma teaches determining whether a connection connecting nodes 5, 3, 2 and 1 can be established between nodes 1 and 5 when a connection failure occurs between the nodes 5 and 6. However, there are no such teachings in Azuma that a connection connecting nodes 5, 3, 2 and 1 can be established when the first connection between nodes 5 and 6 cannot be established. In Azuma, a connection connecting nodes 1, 6, 2, 3, 5 and 4 or a connection connecting nodes 1, 2, 3, and 4 can be established according to the line restoration or path restoration when the connection failure occurs between nodes 5 and 6. Azuma does not teach a restoration path connecting nodes 5, 3, 2 and 1 when the first connection between the nodes 5 and 6 cannot be established.

Additionally, Applicant submits that Azuma fails to teach or suggest the step of determining whether *a third connection* can be established between a fourth node located before

the first node along the path and the second node, if the first connection and the second connection cannot be established, as recited in claim 1. The Examiner asserts in the Office Action that Azuma teaches the step of determining whether a connection connecting nodes 4, 3, 2 and 6 can be established between nodes 4 and 6, if the first connection and the second connection cannot be established. See the Office Action, page 3, lines 6-9. Applicant respectfully disagrees.

Applicant submits that there are no such teachings in Azuma that a connection connecting nodes 4, 3, 2 and 6 can be established between nodes 4 and 6 if the first connection and the second connection cannot be established. Azuma teaches a connection connecting nodes 1, 6, 2, 3, 5 and 4 or a connection connecting nodes 1, 2, 3 and 4 can be established according to the line restoration or path restoration. Azuma does not teach a restoration path connecting nodes 4, 3, 2 and 6 if the first connection and the second connection cannot be established.

The Examiner notes in the Office Action that Azuma teaches that "consistent computations of alternative paths are obtained at each node and a common computation algorithm for finding alternative paths are used" at column 5, lines 18-30. See the Office Action, page 2, lines 17-18. The Examiner concludes that it would be obvious to one of ordinary skill in the art that consistently using Azuma's system quickly restores connection failures between nodes N_k and N_{k+1}. See the Office Action, page 3, lines 3-6. Applicant submits that although Azuma teaches a failure restoration generally, Azuma does not teach the specific algorithm of the claimed invention for restoring a connection failure. Furthermore, the specific restoration algorithm of the claimed invention is not obvious over the general restoration teachings of the Azuma reference.

Additionally, Applicant submits that Azuma fails to teach or suggest the step of determining whether *a fourth connection* can be established between the third node and the fourth node, if the first connection, the second connection and the third connection cannot be established, as recited in claim 1. The Examiner recognizes in the Office Action that Azuma does not teach this limitation. See the Office Action, page 2, line 19 through page 3, line 2. The Examiner, however, asserts that it would be obvious to one of ordinary skill in the art that

consistently using Azuma's system quickly restores connection failures between nodes N_k and N_{k+1}.

Applicant submits that the Examiner's conclusion is based upon impermissible hindsight reasoning and is <u>not</u> supported by any evidence of record. It is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *In re Zurko*, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). The "basic knowledge" and "common sense" that are <u>not</u> based on any evidence in the record lacks substantial evidence support. *Id.* at 1385, 59 USPQ2d at 1697. See also *In re Lee*, 277 F.3d 1338, 1344-45, 61 USPQ2d 1430, 1434-35 (Fed. Cir. 2002).

In light of the foregoing arguments, Applicant submits that Azuma <u>fails</u> to teach or suggest all of the limitations of claims 1 and 6. Claims 2-5 and 7-21, which depend upon one of claims 1 and 6, are <u>not</u> rendered obvious over the cited prior art reference. Applicant therefore requests the Examiner to reconsider and withdraw the rejection of claims 1-21 under 35 U.S.C. §103(a) and pass the claims to allowance.
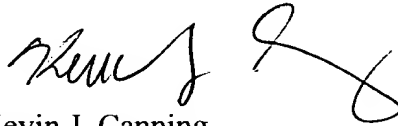
Conclusion

In view of the remarks set forth above, Applicant contends that Claims 1-21 are presently pending in this application, are patentable an in condition for allowance. If the Examiner deems there are any remaining issues, we invite the Examiner to call the undersigned at (617) 227-7400.

Respectfully submitted,

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Dated: July 19, 2005

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